

APRIL/MAY 2024

**CBC31/FBC31 — ANALYTICAL
BIOCHEMISTRY**

Time : Three hours

Maximum : 75 marks



SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Define molarity.
2. Show 'Svedberg unit'.
3. List the adsorbents chromatography.
4. Explain K_d .
5. Recall the principle of ESR.
6. Outline Stoke's shift.
7. What is SDS?
8. Summarize the role of buffer strength in electrophoresis.
9. Recall the principle of GM counter.
10. Illustrate the properties of alpha particle.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Identify the process of differential centrifugation.

Or

- (b) List the types of rotors and its maintenance.

12. (a) Develop the principle and operational procedure of affinity chromatography.

Or

- (b) Examine the principle, types and applications of paper chromatography.

13. (a) Identify what are the characteristics of absorption and emission spectra.

Or

- (b) Examine the principle and working of UV Spectroscopy.

14. (a) Identify the supporting medium used electrophoretic techniques.

Or

- (b) Analyse the principles of electrophoresis techniques.

15. (a) Construct the event that occurs in GM counter.

Or

- (b) Survey the hazards and safety aspects in handling radio isotopes.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain Analytical ultracentrifugation and how it used in determination of molecular weight.

17. Evaluate the principle, construction and working of paper chromatography.

18. Determine the principle and applications of spectrofluorimetry.

19. Discuss the principle, technique and applications of SDS-PAGE.

20. Elaborate on detection and measurement of radioactivity based on the principle of excitation.